

What is claimed is:

1. A method for restraining deformation of a nip roll,  
which is used to restrain deformation of first and second  
nip rolls which nip a sheet material, wherein  
5       the diameter ratio between said first and second nip  
rolls is set at a value different from 1.

2. The method for restraining deformation of a nip  
roll according to claim 1, wherein the diameter ratio  
between said first and second nip rolls is set so that when  
10      the number of polygon sides of polygonal deformation of said  
first nip roll, which is defined by the ratio of the  
frequency of a vibration system including said rolls to the  
rotational speed of said first nip roll, is an integer  $N_1$ ,  
the number of polygon sides of said second nip roll, which  
15      is defined by the ratio of the frequency of said vibration  
system to the rotational speed of said second nip roll, has  
the following value:

$$N_1 \pm j + a$$

Where,  $j = 0, 1, 2, 3, \dots$

20        $0 < a < 1$

3. The method for restraining deformation of a nip  
roll according to claim 2, wherein said constant  $a$  is set at  
0.1 to 0.9.

4. The method for restraining deformation of a nip  
25      roll according to claim 2, wherein said constant  $a$  is set at

0.5.

5. The method for restraining deformation of a nip roll according to any one of claims 1 to 4, wherein said first and second nip rolls are nip rolls provided in a  
5 paper-making machine or a printing machine.